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Notice of Allowability	Application No.	Applicant(s)	
	10/676,525	PAWLOWSKI ET AL.	
	Examiner	Art Unit	
	YOUNG T. TSE	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 9 June 2007.
2. ☒ The allowed claim(s) is/are 1-7 and 9-39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____. | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. John A. Miller on June 15, 2007.

The application has been amended as follows:

In claim 4, line 3, "estimator signal" has been changed to "estimator signal from said average level estimator".

In claim 15, line 4, "two mark symbols or two space signals" has been changed to "or two symbols".

In claim 16, line 9, the word "include" has been changed to "includes".

In claim 17, line 4, "received signal" has been changed to "receiver signal".

In claim 19, line 4, "selector switch" has been changed to "select switch".

In claim 19, lines 6-7, "two mark symbols or two space symbols" has been changed to "or two symbols from the threshold test circuit".

In claim 26, lines 4-5, "output of zero, one, two mark symbols or two space symbols" has been changed to "the output of zero, one, or two symbols".

In claim 27, lines 9-10, "said antipodal circuit including" has been changed to "wherein said antipodal circuit includes".

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In claim 28, lines 2-3, "signal and said receiver signal generates" has been changed to "signal from said average level estimator and said receiver signal to generate".

In claim 39, lines 3-4, "two mark symbols or two space symbols" has been changed to "or two symbols".

2. The following changes to the drawings have been approved by the examiner and agreed upon by applicant: In Fig. 4, block element 50, the word "adjudication" is misspelled as indicated in the last Office Action. In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

3. The following is an examiner's statement of reasons for allowance: the prior art fails to show or suggest that a maximum likelihood bit synchronizer comprises at least n timing hypothesis circuits coupled to a tapped delay line, wherein n is an integer equal to a second rate sampled by a receiver divided by a first rate generated by a transmitter plus two, wherein each of the n timing hypothesis circuits includes a sum-and-dump summer connected to $n-2$ outputs of the tapped delay line; and a control and adjudication circuit coupled to the n timing hypothesis circuits that compares outputs of the n timing hypothesis circuits and selects one of the n timing hypothesis circuits. Or a maximum likelihood bit synchronizer comprises at least a plurality of timing hypothesis circuits coupled to a tapped delay line, wherein each of the timing hypothesis circuits includes a data detector, an absolute value circuit connected to a data detector, and an averaging circuit connected to an absolute value circuit; and a control and adjudication circuit coupled to the timing hypothesis circuits that compares outputs of the timing

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hypothesis circuits and selects one of the timing hypothesis circuits. Or a maximum likelihood bit synchronizer comprises at least n timing hypothesis circuits coupled to a tapped delay line, wherein n is an integer equal to a second rate sampled by a receiver divided by a first rate generated by a transmitter plus two; an antipodal circuit coupled to an input of the tapped delay line for generating an antipodal signal from a receiver signal, wherein the antipodal circuit includes an average level estimator; and a control and adjudication circuit coupled to the n timing hypothesis circuits that compares outputs of the n timing hypothesis circuits and selects one of the n timing hypothesis circuits.

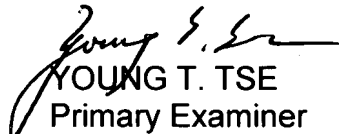
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


YOUNG T. TSE
Primary Examiner
Art Unit 2611